



CIVIL AIM CONSULTANTS & ENGINEERS

(Building Geo-Tech & Highway Materials Testing Laboratory)



An ISO 9001-2015 Certified Company

NABL Accredited As Per ISO/IEC 17025:2017 Laboratory

QC ABSTRACT

Name of Work:: Improvements to Roads and Drains at Singapura Layout and Surrounding area in Ward No.15(Kuvempunagara), BBMP, Bangalore.

Sl. No.	Item	Quantity As Per BOQ	Required No's of testes as per frequency	Actual No's of testes as per frequency	Testes Results
1	1:3:6	52.50Cum	1	1	Pass
2	Steel	6.62 Tonne	1	1	Pass
3	M20	110.25 Cum	6	6	Pass
4	Precast Slab-100mm	311.40Sqm	1	1	Pass

Cubes
0-5 Cum 1Set
6-15 Cum 2Set
16-30 Cum 3Set
31-50 Cum 4Set
Add 1set for extra 50Cum

For CIVIL AIM CONSULTANTS & ENGINEERS

[Signature]
Authorised Signatory

[Signature]
Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97



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Job No.: CACE/BBMP/SMV/W.No.15/2022-23

Date: 08.03.2023

TEST REPORT

CLIENT	:	Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.
AGENCY	:	Sri. S M Varadarajappa, Contractor, Bangalore.
NAME OF THE WORK	:	Improvements to Roads and Drains at Singapura Layout and Surrounding area in Ward No.15(Kuvempunagara), BBMP, Bangalore.
SAMPLE ID	:	Cement (Birla OPC 53 Grade)
DATE OF MANUFACTURE	:	Feb - 2023
DATE OF TESTING	:	06.03.2023 to 08.03.2023
SAMPLES SUPPLIED BY	:	AGENCY

The results of the tests conducted on the cement sample are as follows:

Sl.No	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 269-2015
1	a) Initial Setting Time	IS-4031 (Part -5)	125 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part -5)	335 Minutes	Not More than 600 Minutes
2	Soundness	IS-4031 (Part 3) by the Le-Chatelier method	2 mm	Not more than 10 mm
3	Standard Consistency	IS-4031 (Part -4)	30.00 %	-

Note:

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Job No.: CACE/BBMP/SMV/W.No.15/2022-23

Date :08.03.2023

TEST REPORT ON FINE AGGREGATES (SAND)

Client : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

Agency : Sri. S M Varadarajappa, Contractor, Bangalore.

Name of Work : Improvements to Roads and Drains at Singapura Layout and Surrounding area in Ward No.15(Kuvempunagara), BBMP, Bangalore.

Date of Testing :08.03.2023

IS Code : IS 383:2016

: IS 2386 (Part 1):1963(RA 2011)

Material : Sand

Total Wt. of Aggregates in gms 1000

Is Sieve Size in mm	Weight Retained (gm)	Retained Weight in %	Cumulative Retained Weight in %	Cumulative Weight Passing in %	Spec.Limits For Zone-II
10	0	0	0	100	100
4.75	78	7.80	7.80	92.2	90-100
2.36	160	16.00	23.80	76.2	75-100
1.18	172	17.20	41.00	59.0	55-90
600 Micron	168	16.80	57.80	42.2	35-59
300 Micron	249	24.90	82.70	17.3	8-30
150 Micron	122	12.20	94.90	5.1	0-10

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Job No.: CACE/BBMP/SMV/W.No.15/2022-23

Date : 08.03.2023

TEST REPORT ON FINE AGGREGATES (SAND)

IS 2116-1980

Client : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

Agency : Sri. S M Varadarajappa, Contractor, Bangalore.

Name of Work : Improvements to Roads and Drains at Singapura Layout and Surrounding area in Ward No.15(Kuvempunagara), BBMP, Bangalore.

Date of Testing : 08.03.2023

Material : Sand - Masonry

Total wt. of aggregates in gms = 1000

Is Sieve Size in mm	Weight Retained (gm)	Retained Weight in %	Cumulative Retained Weight in %	Cumulative Weight Passing in %	Spec.Limits as per IS 2116-1980
4.75	0	0.00	0.00	100.0	100
2.36	17	1.70	1.70	98.3	90-100
1.18	75	7.50	9.20	90.8	70-100
600 Micron	123	12.30	21.50	78.5	40-100
300 Micron	261	26.10	47.60	52.4	5-70
150 Micron	505	50.50	98.10	1.9	0-15

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Job No.: CACE/BBMP/SMV/W.No.15/2022-23

Date :08.03.2023

TEST REPORT ON COARSE AGGREGATES

Client : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

Agency : Sri. S M Varadarajappa, Contractor, Bangalore.

Name of Work : Improvements to Roads and Drains at Singapura Layout and Surrounding area in Ward No.15(Kuvempunagara), BBMP, Bangalore.

Date of Testing :08.03.2023

IS Code : IS 383:2016

: IS 2386 (Part 1):1963(RA 2011)

Material : 20mm Aggregates

Total Wt. of Aggregates in gms= 5000

Is Sieve Size in mm	Weight Retained (gm)	Retained Weight in %	Cumulative Retained Weight in %	Cumulative Weight Passing in %	Spec.Limits
40	0	0	0	100	100
20	174	3.5	3.5	96.5	95-100
10	2506	50.1	53.6	46.4	25-55
4.75	1949	39.0	92.6	7.4	0-10

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Job No.: CACE/BBMP/SMV/W.No.15/2022-23

Date :08.03.2023

TEST REPORT ON COARSE AGGREGATES

Client : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.
Agency : Sri. S M Varadarajappa, Contractor, Bangalore.
Name of Work : Improvements to Roads and Drains at Singapura Layout and Surrounding area in Ward No.15(Kuvempunagara), BBMP, Bangalore.
Date of Testing :08.03.2023
IS Code : IS 383:2016
: IS 2386 (Part 1):1963(RA 2011)
Material : 40mm Aggregates

Total Wt. of Aggregates in gms 15000

Is Sieve Size in mm	Weight Retained (gm)	Retained Weight in %	Cumulative Retained Weight in %	Cumulative Weight Passing in %	Spec.Limits
80	0	0	0	100	100
40	184	1.23	1.23	98.77	95-100
20	8245	54.97	56.19	43.81	30-70
10	3273	21.82	78.01	21.99	10-35
4.75	2875	19.17	97.18	2.82	0-5

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Job No.: CACE/BBMP/SMV/W.No.15/2022-23

Date : 08.03.2023

TEST REPORT OF PHYSICAL PROPERTIES OF REINFORCEMENT STEEL

Client : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

Agency : Sri. S M Varadarajappa, Contractor, Bangalore.

Name of Work : Improvements to Roads and Drains at Singapura Layout and Surrounding area in Ward No.15(Kuvempunagara), BBMP, Bangalore.

Steel Dia/Length : 8mm,10mm Fe500 TMT Bars"

Reference to BIS codes : IS 1786:2008(RA 2013) High Strength Deformed Steel Bars and Wires for Concrete Reinforcement-Specification
: IS 1608:2005 Metallic Materials- Tensile Testing at Ambient Temperature

Date of test : 08.03.2023

S.No	Brand	Nominal size (dia in mm)	Mass per meter (kg/meter)	TENSILE STRENGTH			
				0.20 % proof stress/ yield stress (N/mm ²)	Tensile strength (N/mm ²)	TS/YS ratio	Elongation, percent on gauge length
1	TMT	8	0.399	545	630	1.16	14.5
2	TMT	10	0.621	555	648	1.17	15

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Job No.: CACE/BBMP/SMV/W.No.15/2022-23

Date: 27.03.2023

TEST REPORT ON CONCRETE CUBES

Client : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

Contractor : Sri. S M Varadarajappa, Contractor, Bangalore.

Name of the work : Improvements to Roads and Drains at Singapura Layout and Surrounding area in Ward No.15(Kuvempunagara), BBMP, Bangalore.

Sample ID : Cement Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm²

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

Grade of Concrete : M₂₀

Compressive Strength as on : 7th day

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm ²)
1	20.03.2023	27.03.2023	8.124	350.7	15.59
2	20.03.2023	27.03.2023	8.134	352.4	15.66
3	20.03.2023	27.03.2023	8.147	353.1	15.69

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Job No.: CACE/BBMP/SMV/W.No.15/2022-23

Date: 18.04.2023

TEST REPORT ON CONCRETE CUBES

Client : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

Contractor : Sri. S M Varadarajappa, Contractor, Bangalore.

Name of the work : Improvements to Roads and Drains at Singapura Layout and Surrounding area in Ward No.15(Kuvempunagara), BBMP, Bangalore.

Sample ID : Cement Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm²

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

Grade of Concrete : M₂₀

Compressive Strength as on : 28th day

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm ²)
1	20.03.2023	18.04.2023	8.160	500.4	22.24
2	20.03.2023	18.04.2023	8.175	504.7	22.43
3	20.03.2023	18.04.2023	8.182	508.3	22.59

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Job No.: CACE/BBMP/SMV/W.No.15/2022-23

Date: 27.03.2023

TEST REPORT ON CONCRETE CUBES

Client : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

Contractor : Sri. S M Varadarajappa, Contractor, Bangalore.

Name of the work : Improvements to Roads and Drains at Singapura Layout and Surrounding area in Ward No.15(Kuvempunagara), BBMP, Bangalore.

Sample ID : Cement Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm²

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

Grade of Concrete : M₂₀

Compressive Strength as on : 7th day

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm ²)
1	20.03.2023	27.03.2023	8.177	356.8	15.86
2	20.03.2023	27.03.2023	8.183	354.7	15.76
3	20.03.2023	27.03.2023	8.194	358.2	15.92

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Job No.: CACE/BBMP/SMV/W.No.15/2022-23

Date: 18.04.2023

TEST REPORT ON CONCRETE CUBES

Client : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

Contractor : Sri. S M Varadarajappa, Contractor, Bangalore.

Name of the work : Improvements to Roads and Drains at Singapura Layout and Surrounding area in Ward No.15(Kuvempunagara), BBMP, Bangalore.

Sample ID : Cement Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm²

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

Grade of Concrete : M₂₀

Compressive Strength as on : 28th day

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm ²)
1	20.03.2023	18.04.2023	8.190	509.2	22.63
2	20.03.2023	18.04.2023	8.196	514.7	22.88
3	20.03.2023	18.04.2023	8.204	517.2	22.99

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Job No.: CACE/BBMP/SMV/W.No.15/2022-23

Date: 27.03.2023

TEST REPORT ON CONCRETE CUBES

Client : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

Contractor : Sri. S M Varadarajappa, Contractor, Bangalore.

Name of the work : Improvements to Roads and Drains at Singapura Layout and Surrounding area in Ward No.15(Kuvempunagara), BBMP, Bangalore.

Sample ID : Cement Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm²

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

Grade of Concrete : M₂₀

Compressive Strength as on : 7th day

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm ²)
1	20.03.2023	27.03.2023	8.124	339.7	15.10
2	20.03.2023	27.03.2023	8.138	345.2	15.34
3	20.03.2023	27.03.2023	8.159	348.9	15.51

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Job No.: CACE/BBMP/SMV/W.No.15/2022-23

Date: 18.04.2023

TEST REPORT ON CONCRETE CUBES

Client : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

Contractor : Sri. S M Varadarajappa, Contractor, Bangalore.

Name of the work : Improvements to Roads and Drains at Singapura Layout and Surrounding area in Ward No.15(Kuvempunagara), BBMP, Bangalore.

Sample ID : Cement Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm²

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

Grade of Concrete : M₂₀

Compressive Strength as on : 28th day

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm ²)
1	20.03.2023	18.04.2023	8.164	504.7	22.43
2	20.03.2023	18.04.2023	8.172	508.6	22.60
3	20.03.2023	18.04.2023	8.181	512.7	22.79

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Job No.: CACE/BBMP/SMV/W.No.15/2022-23

Date: 30.03.2023

TEST REPORT ON CONCRETE CUBES

Client : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

Contractor : Sri. S M Varadarajappa, Contractor, Bangalore.

Name of the work : Improvements to Roads and Drains at Singapura Layout and Surrounding area in Ward No.15(Kuvempunagara), BBMP, Bangalore.

Sample ID : Cement Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm²

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

Grade of Concrete : M₂₀

Compressive Strength as on : 7th day

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm ²)
1	23.03.2023	30.03.2023	8.129	342.5	15.22
2	23.03.2023	30.03.2023	8.141	345.7	15.36
3	23.03.2023	30.03.2023	8.149	351.2	15.61

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Job No.: CACE/BBMP/SMV/W.No.15/2022-23

Date: 20.04.2023

TEST REPORT ON CONCRETE CUBES

Client : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

Contractor : Sri. S M Varadarajappa, Contractor, Bangalore.

Name of the work : Improvements to Roads and Drains at Singapura Layout and Surrounding area in Ward No.15(Kuvempunagara), BBMP, Bangalore.

Sample ID : Cement Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm²

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

Grade of Concrete : M₂₀

Compressive Strength as on : 28th day

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm ²)
1	23.03.2023	20.04.2023	8.170	506.8	22.52
2	23.03.2023	20.04.2023	8.177	509.7	22.65
3	23.03.2023	20.04.2023	8.183	514.3	22.86

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Job No.: CACE/BBMP/SMV/W.No.15/2022-23

Date: 30.03.2023

TEST REPORT ON CONCRETE CUBES

Client : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

Contractor : Sri. S M Varadarajappa, Contractor, Bangalore.

Name of the work : Improvements to Roads and Drains at Singapura Layout and Surrounding area in Ward No.15(Kuvempunagara), BBMP, Bangalore.

Sample ID : Cement Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm²

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

Grade of Concrete : M₂₀

Compressive Strength as on : 7th day

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm ²)
1	23.03.2023	30.03.2023	8.105	340.5	15.13
2	23.03.2023	30.03.2023	8.112	342.7	15.23
3	23.03.2023	30.03.2023	8.115	343.9	15.28

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For CIVIL AIM CONSULTANTS & ENGINEERS

24

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Authorised Signatory



CIVIL AIM CONSULTANTS & ENGINEERS

(Building Geo-Tech & Highway Materials Testing Laboratory)



An ISO 9001-2015 Certified Company

NABL Accredited As Per ISO/IEC 17025:2017 Laboratory

Job No.: CACE/BBMP/SMV/W.No.15/2022-23

Date: 20.04.2023

TEST REPORT ON CONCRETE CUBES

Client : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

Contractor : Sri. S M Varadarajappa, Contractor, Bangalore.

Name of the work : Improvements to Roads and Drains at Singapura Layout and Surrounding area in Ward No.15(Kuvempunagara), BBMP, Bangalore.

Sample ID : Cement Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm²

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

Grade of Concrete : M₂₀

Compressive Strength as on : 28th day

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm ²)
1	23.03.2023	20.04.2023	8.155	505.7	22.48
2	23.03.2023	20.04.2023	8.159	506.3	22.50
3	23.03.2023	20.04.2023	8.162	508.1	22.58

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[Signature]
Authorised Signatory

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Assistant Executive Engineer
Vidyaranyapura Sub Division
B.D.M.P, Bangalore - 97



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Job No.: CACE/BBMP/SMV/W.No.15/2022-23

Date: 30.03.2023

TEST REPORT ON CONCRETE CUBES

Client : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

Contractor : Sri. S M Varadarajappa, Contractor, Bangalore.

Name of the work : Improvements to Roads and Drains at Singapura Layout and Surrounding area in Ward No.15(Kuvempunagara), BBMP, Bangalore.

Sample ID : Cement Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm²

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

Grade of Concrete : M₂₀

Compressive Strength as on : 7th day

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm ²)
1	23.03.2023	30.03.2023	8.130	341.8	15.19
2	23.03.2023	30.03.2023	8.145	343.3	15.26
3	23.03.2023	30.03.2023	8.153	348.7	15.50

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For CIVIL AIM CONSULTANTS & ENGINEERS


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Job No.: CACE/BBMP/SMV/W.No.15/2022-23

Date: 20.04.2023

TEST REPORT ON CONCRETE CUBES

Client : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

Contractor : Sri. S M Varadarajappa, Contractor, Bangalore.

Name of the work : Improvements to Roads and Drains at Singapura Layout and Surrounding area in Ward No.15(Kuvempunagara), BBMP, Bangalore.

Sample ID : Cement Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm²

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

Grade of Concrete : M₂₀

Compressive Strength as on : 28th day

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm ²)
1	23.03.2023	20.04.2023	8.185	507.1	22.54
2	23.03.2023	20.04.2023	8.189	508.5	22.60
3	23.03.2023	20.04.2023	8.193	505.3	22.46

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P. R. Kanth
Authorised Signatory

C. G.
Assistant Executive Engineer
Vidyaranyapura Sub Division
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Job No.: CACE/BBMP/SMV/W.No.15/2023-24

Date: 07.04.2023

PRECAST SLAB 100 mm Thick(CORE) TEST REPORT

Client : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.
Contractor : Sri. S M Varadarajappa, Contractor, Bangalore.
Name of Work : Improvements to Roads and Drains at Singapura Layout and Surrounding area in Ward No.15(Kuvempunagara), BBMP, Bangalore.
No. of Sample Tested : 03
Date of Testing : 07.04.2023
Technical Reference : IS:516-1959 (Reaffirmed 1999), SP-24:1983.
Grade of Concrete : M₁₅

Sl. No.	Dia of Core D (mm)	Height of Core H (mm)	Core Wt (Kg)	Density of Core (kg / m ³)	H / D	Correction factor (Based on H/D)	Failure Load (kN)	Core Strength (N/mm ²)	Correction Factor for the Dia. (Strength of the Core x 1.08)	Corrected Cylinder Compressive Strength (N/mm ²)	Equivalent Cube Compressive Strength (N/mm ²)
1	50.00	80.00	0.387	2463.72	1.60	0.957	25.80	13.14	14.19	13.58	16.97
2	50.00	82.00	0.395	2453.32	1.64	0.961	26.10	13.29	14.36	13.80	17.25
3	50.00	84.00	0.402	2437.34	1.68	0.965	26.70	13.60	14.69	14.18	17.72

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Assistant Executive Engineer
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